



CLAIMS

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- 1. In an envelope detector for determining whether the level of a differential input signal DPIN DNIN is above a reference voltage V_{REF} : means for converting the differential input signal to a differential current IDP IDN and the reference voltage to a reference current I_{REF} , means for comparing the currents to determine if |IDP IDN| is greater than I_{REF} , and means for indicating a valid differential signal when |IDP IDN| is greater than I_{REF} .
- 2. The envelope detector of Claim 1 wherein the means for determining if |IDP IDN| is greater than |REF| includes a first comparator for comparing |IDP IDN| with |REF| and a second comparator for comparing |IDN| |IDP| with |REF|.
- 3. The envelope detector of Claim 2 wherein the means for indicating a valid differential signal includes an OR circuit coupled to the comparators for providing an output signal when IDP IDN > IREF or IDN IDP > IREF.
- 4. In a method of determining whether the level of a differential input signal DPIN DNIN is above a reference voltage V_{REF} , the steps of: converting the differential input signal to a differential current IDP IDN, converting the reference voltage to a reference current I_{REF} , comparing the currents to determine if |IDP IDN| is greater than I_{REF} , and means for indicating a valid differential signal when |IDP IDN| is greater than I_{REF} .
- 5. The method of Claim 4 wherein the currents are compared by comparing IDP IDN and IDN IDP with I_{REF} , and the valid differential signal is indicated if either IDP IDN or IDN IDP is greater than I_{REF} .
- 6. In an envelope detector for determining whether the level of a differential input signal DPIN DNIN is above a reference voltage V_{REF} , the

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differential input signal being cyclical with DPIN and DNIN each being greater than the other during alternate cycles and crossing over during a switching interval between the cycles: means for converting the differential input signal to a differential current IDP - IDN and the reference voltage to a reference current IREF, means for comparing the currents and providing an output signal indicative of a valid differential signal when |IDP - IDN| is greater than IREF, and means for maintaining the output signal during the switching interval following a cycle in which |IDP - IDN| is greater than IREF.

- 7. The envelope detector of Claim 6 wherein the means for comparing the currents includes a first comparator for comparing IDP IDN with I_{REF} and a second comparator for comparing IDN IDP with I_{REF} , and the means for providing the output signal includes an OR circuit coupled to the comparators for providing the output signal when IDP IDN > I_{REF} or IDN IDP > I_{REF} .
- 8. The envelope detector of Claim 7 wherein the means for maintaining the output signal comprises a Schmitt trigger responsive to the output signal from OR circuit.
- 9. In a method of for determining whether the level of a differential input signal DPIN DNIN is above a reference voltage V_{REF}, the differential input signal being cyclical with DPIN and DNIN each being greater than the other during alternate cycles and crossing over during a switching interval between the cycles, the steps of: converting the differential input signal to a differential current IDP IDN and the reference voltage to a reference current I_{REF}, comparing the differential current and the reference current, providing an output signal indicative of a valid differential signal when |IDP IDN| is greater than I_{REF}, and maintaining the output signal during the switching interval following a cycle in which |IDP IDN| is greater than I_{REF}.

- 10. The method of Claim 9 wherein IDP IDN and IDN IDP are compared with I_{REF} , and the output signal is provided when IDP IDN > I_{REF} or IDN IDP > I_{REF} .
- 11. The method of Claim 9 wherein the output signal is passed through a Schmitt trigger having trigger levels set further apart than a change in the output signal during the switching interval.